

Claims

1. Method for producing rhenium-188 labeled particles in which particles of an organic polymer or a biopolymer are suspended in a solution and heated to 80 °C to 100 °C, wherein the solution has initially a pH value of pH 1 to pH 3 and comprises:
 - a) a water-soluble tin-II salt,
 - b) a Re-188 perrhenate salt with a radioactivity of 1,000 MBq to 60,000 MBq, characterized in that after 45 minutes to 70 minutes of heating the pH value is increased and adjusted to a pH value of pH 5 to pH 8.5.
2. Method according to claim 1, characterized in that for increasing the pH value a solution of citrate, acetate, or tartrate, preferably potassium sodium tartrate, is used.
3. Method according to one of the claims 1 or 2, characterized in that the solution contains a complexing agent for stabilizing the tin-II salt, selected from 2, 5-dihydroxy benzoic acid, acetic acid, citric acid, malonic acid, gluconic acid, lactic acid, hydroxy isobutyric acid, ascorbic acid, tartaric acid, succinic acid, the salts of the aforementioned acids or glucoheptonate.
4. Method according to claim 3, characterized in that 2,5-dihydroxy benzoic acid is used as the complexing agent for stabilizing the tin-II salt.
5. Method according to one of the claims 1 to 4, characterized in that the particles have a diameter of 10 µm to 30 µm.
6. Method according to one of the claims 1 to 5, characterized in that the water-soluble tin-II salt at the beginning of the method is present in the solution in a concentration of 10 mmol/l to 50 mmol/l.

7. Method according to one of the claims 1 to 6, characterized in that the particles are comprised of human serum albumin.
8. Pharmaceutical kit for producing particles labeled with Re-188, comprising:
- a) a first container with a quantity of water soluble tin-II salt and a quantity of a complexing agent for stabilizing the tin-II salt, selected from 2, 5-dihydroxy benzoic acid, acetic acid, citric acid, malonic acid, gluconic acid, lactic acid, hydroxy isobutyric acid, ascorbic acid, tartaric acid, succinic acid, the salts of the aforementioned acids or glucoheptonate;
 - b) a second container with particles made from an organic polymer or a biopolymer;
 - c) a third container with a quantity of a substance for increasing the pH value, selected from citrate, acetate, or tartrate, present in solid form or in aqueous solution and generating in solution a pH value of pH 6.5 to pH 8.5.
9. Pharmaceutical kit according to claim 8, characterized in that 2,5-dihydroxy benzoic acid is the complexing agent for stabilizing the tin-II salt.
10. Pharmaceutical kit according to claim 8 or 9, characterized in that the substance for increasing the pH value is potassium sodium tartrate.
11. Pharmaceutical kit according to one of the claims 8 to 10, characterized in that the particles have a diameter of 10 μm to 30 μm .
12. Pharmaceutical kit according to one of the claims 8 to 11, characterized in that the kit contains 0.02 mmol to 0.1 mmol tin-II salt per administration to the patient.

13. Pharmaceutical kit according to one of the claims 8 to 12, characterized in that the particles are comprised of human serum albumin.
14. Rhenium-188 labeled particles produced by the method according to one of the claims 1 to 6.
15. Use of rhenium-188 labeled particles according to claim 14 for radiotherapy of tumors, carcinoma or their metastases.